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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,574	09/23/2003	Mayuko Okada	501152.20022	3046

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/668,574	OKADA ET AL.	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *1,2,4-8 and 10-12* is/are allowed.

6)☒ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/6/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 7-8 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Valentini et al. (U.S. 2005/0020730).

The rejection is adequately set forth in paragraph 3 of the office action mailed 8/29/06 and is incorporated here by reference.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al. (U.S. 2003/0073759).

The rejection is adequately set forth in paragraph 6 of the office action mailed 8/29/06 and is incorporated here by reference.

5. Claims 7-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (U.S. 6,440,203).

The rejection is adequately set forth in paragraph 7 of the office action mailed 8/29/06 and is incorporated here by reference.

6. Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. (U.S. 2004/0024086).

The rejection is adequately set forth in paragraph 8 of the office action mailed 8/29/06 and is incorporated here by reference.

Response to Arguments

7. Applicants' arguments filed 12/28/06 have been fully considered but they are not persuasive.

Specifically, applicants argue that Valentini et al. and Segawa et al. are no longer proper references against the present claims in light of applicants filing on 12/28/06 of English translation of foreign priority document previously filed 9/23/03 which results in the perfection of the foreign priority filing date. Applicants argue that as a result, the date of invention of the current application predates the 102(e) date of each of Valentini et al. and Segawa et al.

However, it is the examiner's position that present claims 7-8 and 10-12 against which Valentini et al. and/or Segawa et al. are applied are not entitled to the foreign priority date of 9/24/02 and that applicants have not established effective filing date of 9/24/02 for present claims 7-8 and 10-12 given that there is no support for these claims in the foreign priority document. That is, applicant has not pointed to, and the examiner has not found, any disclosure

in the foreign priority document with respect to the subject matter of present claims 7-8 and 10-12.

Specifically, there is no disclosure in the foreign priority document ink comprising dipropylene glycol normal propyl ether, acrylic polymer, a water-insoluble coloring agent and water wherein "a blending ratio of the dipropylene glycol normal propyl ether with respect to the acrylic polymer is 0.05 to 2 on the basis of weight". That is, there appears to be no disclosure in the foreign priority document regarding the blending ratio of the dipropylene glycol normal propyl ether with respect to the acrylic polymer as presently claimed.

Thus, it is the examiner's position that applicants are not entitled to the benefit of the foreign priority date with respect to the disclosures set forth in present claims 7-8 and 10-12 and thus, Valentini et al. and Segawa et al. remain relevant references against the present claims.

Applicants also argue that Koga et al. is no longer a relevant reference against the present claims in light of applicants' statement of common ownership as well as applicants perfecting of the foreign priority filing date.

It is agreed that in light of applicants' statement of common ownership, Koga et al. is no longer a relevant reference against the present claims under 35 USC 102(e).

However, while applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as Koga et al. at the time this invention was made, or was subject to a joint research agreement at the time this invention was made, Koga et al. additionally qualifies as prior art under another subsection of 35 U.S.C. 102, namely, 102(a), and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

Applicants argue that Koga et al. is disqualified as a reference under 35 USC 102(a) in light of applicants perfecting of the foreign priority filing date. However, it is the examiner's position that present claims 1-2 and 4-6 are not entitled to the foreign priority date of 9/24/02 and that applicants have not established effective filing date of 9/24/02 for present claims 1-2 and 4-6 given that there is no support for these claims in the foreign priority document. That is, applicant has not pointed to, and the examiner has not found, any disclosure in the foreign priority document with respect to the subject matter of present claims 1-2 and 4-6.

Specifically, there is no disclosure in the foreign priority document of ink comprising tripropylene glycol normal butyl ether, acrylic polymer, a water-insoluble coloring agent and water wherein "a blending ratio of the tripropylene glycol normal butyl ether with respect to the acrylic polymer is 0.05 to 2 on the basis of weight". That is, there appears to be no disclosure in the foreign priority document regarding the blending ratio of tripropylene glycol normal butyl ether with respect to the acrylic polymer as presently claimed.

Thus, it is the examiner's position that applicants are not entitled to the benefit of the foreign priority date with respect to the disclosures set forth in present claims 1-2 and 4-6 and thus, Koga et al. remains a relevant reference against present claims 1-2 and 4-6.

Applicants also argue that Kato is not a relevant reference against present claims 7-8 and 10-12 given that Kato disclose very broad blending ratio of dipropylene glycol normal propyl ether to acrylic resin, i.e. 0.044 to infinity, as compared to the presently claimed narrow range and disclose broad range of amount of dipropylene glycol normal propyl ether as compared to the presently claimed narrow range and thus Kato does not disclose the presently blending ratio

or amount of dipropylene glycol normal propyl ether with sufficient specificity. Applicants also argue that there is no motivation in Kato to utilize presently claimed blending ratio of dipropylene glycol normal propyl ether to acrylic polymer especially in light of the unexpected results set forth in the present specification.

It is agreed that Kato does not disclose presently claimed ratio of dipropylene glycol normal propyl ether to acrylic polymer or amount of dipropylene glycol normal propyl ether with sufficient specificity to constitute an anticipation of present claims 7-8 and 10-12 which is why Kato is only utilized against the present claims under 35 USC 103.

While it is not necessarily agreed that the upper limit of the blending ratio of dipropylene glycol normal propyl ether to acrylic polymer in Kato is infinity given that it is clear that the ink of Kato always requires the presence of some finite amount of colorant and as such, the lower limit of the amount of colorant is not necessarily 0%, it is agreed that the amount of colorant includes very small amounts resulting in blending ratio of dipropylene glycol normal propyl ether to acrylic polymer that is broad as compared to that presently claimed.

However, as set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Further, Kato discloses the use of 1-20% dipropylene glycol mono-n-propyl ether as penetrating agent and disclose the use of 0.75-22.5% acrylic polymer as dispersant. It therefore would have been within the skill level of one of ordinary skill in the art to choose amounts of dipropylene glycol mono-n-propyl ether and acrylic polymer including those

that result in blending ratio as presently claimed in order to produce ink with effective penetration into substrate and good dispersion stability.

Thus, it would have been obvious to one of ordinary skill in the art to use dipropylene glycol mono-n-propyl ether and acrylic resin in Kato in amounts and ratio, including that presently claimed, in order to produce ink with effective penetration into substrate and good dispersion stability, and thereby arrive at the claimed invention.

Applicants point to unexpected results in Table 12 of the present specification to establish criticality of presently claimed blending ratio of dipropylene glycol mono-n-propyl ether to acrylic polymer and amount of dipropylene glycol mono-n-propyl ether.

It is noted that the data compares ink within the scope of the present claims, i.e. comprising acrylic polymer and dipropylene glycol mono-n-propyl ether, with ink outside the scope of the present claims, i.e. comprising no acrylic polymer and dipropylene glycol mono-n-propyl ether, comprising acrylic polymer and no dipropylene glycol mono-n-propyl ether, comprising acrylic polymer and tripropylene glycol methyl ether, comprising acrylic polymer and diethylene glycol diethyl ether, comprising acrylic polymer and triethylene glycol diethyl ether, and comprising triethylene glycol dimethyl ether and salt of copolymer of acrylic acid/sulfonic acid monomer. It is shown that the inks of the present invention are superior in terms of recovery performance, straight travel stability, fixation, and/or drying.

However, there is no evidence of unexpected or surprising results regarding the amount of dipropylene glycol mono-n-propyl ether or the ratio of no dipropylene glycol mono-n-propyl ether to acrylic polymer. That is, while the comparative data set forth in the present specification establishes the criticality of using dipropylene glycol n-propyl ether and acrylic polymer, Kato

already discloses the use of dipropylene glycol mono-n-propyl ether and acrylic polymer. There is no data, however, that establishes criticality regarding the amount of dipropylene glycol mono-n-propyl ether or ratio of dipropylene glycol n-propyl ether to acrylic polymer.

Further, while paragraph 16 of the present specification discloses the preferred amount of dipropylene glycol n-propyl ether utilized and discloses the ratio of dipropylene glycol n-propyl ether to acrylic polymer, there is no evidence, i.e. data, to support applicants' position regarding these unexpected results.

Applicants also argue that Kato does not disclose any specific examples falling within the scope of the present claims.

While it is agreed that there are no examples in Kato that disclose presently claimed ink, however, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others", *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of Kato as a whole as described above, clearly discloses ink as presently claimed.

Applicants also argue that Kato is not a relevant reference against the present claims given that there is no disclosure in Kato of any effect on straight line travel stability or recording head discharge stability by adding dipropylene glycol mono-n-propyl ether to an ink containing an acrylic polymer or any disclosure of interaction between the dipropylene glycol mono-n-propyl ether and the acrylic polymer.

While it is agreed that Kato does not disclose any interaction between dipropylene glycol mono-n-propyl ether and acrylic polymer, the fact remains that Kato discloses ratio of dipropylene glycol mono-n-propyl ether to acrylic polymer that overlaps that presently claimed.

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Further, Kato discloses the use of 1-20% dipropylene glycol mono-n-propyl ether as penetrating agent and disclose the use of 0.75-22.5% acrylic polymer as dispersant. It therefore would have been within the skill level of one of ordinary skill in the art to choose amounts of dipropylene glycol mono-n-propyl ether and acrylic polymer including those that result in blending ratio as presently claimed in order to produce ink with effective penetration into substrate and good dispersion stability.

Therefore, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to use dipropylene glycol mono-n-propyl ether and acrylic polymer in Kato in amounts and ratio, including that presently claimed, in order to produce ink with effective penetration into substrate and good dispersion stability, and thereby arrive at the claimed invention.

Although there is no disclosure in Kato that the dipropylene glycol mono-n-propyl ether is utilized to effect straight line travel stability or recording head discharge stability or that the acrylic polymer is utilized to improve recovery performance and fixation performance, given that Kato discloses amount of dipropylene glycol mono-n-propyl ether and ratio of dipropylene glycol mono-n-propyl ether to acrylic polymer that overlaps that presently claimed, and given

that it would have been obvious to one of ordinary skill in the art to chose amounts and ratio as presently claimed, it is clear that the ink of Kato would therefore intrinsically possess good straight line travel stability and recording head discharge stability as well as improved recovery performance and fixation performance, and thereby arrive at the claimed invention.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/17/07